Amendments to the Claims

1. (Currently amended) A vector for trapping an unknown gene of *Drosophila melanogaster*, which is a recombinant plasmid comprising the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a reporter gene;

a promoter directed drug resistance gene;

a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and

a synthetic splicing donor site.

2. (Currently amended) The vector of claim 1, wherein the recombinant plasmid is ~~derived from pCasper3~~ made by inserting the promoter directed drug resistance gene into pCasper3.

3. (Previously amended) The vector of claim 1, wherein the reporter gene is the Gal4 gene.

4. (Currently amended) The vector of claim 3, which vector has the nucleotide sequence of SEQ ID No. 1.

5. (Previously presented) The vector of claim 1, wherein the reporter gene is Gal4 DNA binding domain-P53 fusion gene.

6. (Previously presented) The vector of claim 1, wherein the reporter gene is the Gal4-firefly luciferase fusion gene.

7. (Previously presented) The vector of claim 1, wherein the gene responsible for a detectable phenotype of the *Drosophila melanogaster* is mini-white gene.

8. (Previously presented) The vector of claim 1, wherein the drug resistance gene is neomycin-phosphotranspherase gene and ~~its~~ the resistance gene promoter is a heatshock promoter.

9. (Currently amended) A vector ~~derived from pCasperhs, which has the~~ made by inserting a heatshock promoter directed Gal4 activator domain-large T antigen fusion gene ~~within~~ into the polycloning site of the pCasperhs.

10. (Currently amended) A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector which is a recombinant plasmid comprising the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a reporter gene;

a promoter directed drug resistance gene;

a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and

a synthetic splicing donor site,

which method comprises the steps of:

(a) introducing the vector into the genome of a white minus fly;

(b) selecting primary transformants resistant to a drug to which transformants having the drug resistance gene are survivable;

(c) crossing the primary transformants with a transposase source strain to force the vector to jump into other locations;

(d) selecting secondary transformants by picking up the flies having strong eye color,

(e) crossing the secondary transformants with UAS (Upstream Activator Sequence)-luciferase harboring strain and measuring the reporter gene expression of the resultant flies; and

(f) identifying the trapped gene by cloning and sequencing the cDNAs fused to the reporter gene and the gene responsible for a detectable phenotype of the fly.

11. (Currently amended) The method according to claim 10, wherein the recombinant plasmid is ~~derived from pCasper3~~ made by inserting the promoter directed drug resistance gene into pCasper3.

12. (Previously presented) The method according to claim 10, wherein the reporter gene in the vector is the Gal4 gene, and in the step (e) the Gal4 expression is measured.

13. (Previously presented) The method according to claim 10, wherein the reporter gene of the vector is the Gal4-firefly luciferase fusion gene, and in the step (e) expression of said fusion gene is measured without crossing the secondary transformants with UAS-luciferase harboring strain.

14. (Previously presented) The method according to claim 10, wherein the gene responsible for a detectable phenotype of the *Drosophila melanogaster* is mini-white gene, and in the step (f) the cDNAs fused to the reporter gene and the mini-white gene are cloned and sequenced.

15. (Currently amended) The method according to claim 10, wherein the drug resistance gene is neomycin-phosphotranspherase gene and ~~it's~~ the resistance gene promoter is a heatshock promoter, and in the step (b) the transformants resistant to G418 ~~is~~ are selected.

16. (Withdrawn) A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector A which is a recombinant plasmid comprising the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic top/start sequence;

Gal4 DNA binding domain-P53 fusion gene as a reporter gene;

a drug resistance gene;

a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and

a synthetic splicing donor site,

and a vector B derived from pCasperhs, which has the heatshock promoter directed Gal4 activator domain-large T antigen fusion gene within polycloning site of the pCasperhs,

which method comprises the steps of:

(a) introducing each of the vectors A and B into the genomes of separate white minus flies;

(b) selecting primary transformants for the vector A which are resistant to a drug, and selecting primary transformants for the vector B which have an eye color;

(c) crossing the primary transformants for the vector A with a transposase source strain to force the vector to jump into other locations;

(d) selecting secondary transformants for the vector A by picking up the flies having strong eye color;

(e) crossing the secondary transformants with the primary transformants for the vector B to obtain flies harboring both the vectors A and B;

(f) crossing the flies obtained in the step (e) with an UAS-luciferase harboring fly strain and measuring the reporter gene expression of the resultant flies after a heatshock treatment; and

(g) identifying the trapped gene by cloning and sequencing the cDNAs fused to the reporter gene and the gene responsible for a detectable phenotype of the fly.

17. (Withdrawn) The method according to claim 16, wherein the vector A is derived from pCasper3.

18. (Withdrawn) The method according to claim 16, wherein the gene responsible for a detectable phenotype of the *Drosophila melanogaster* is mini-white gene, and in the step (g) the cDNAs fused to the reporter gene and the mini-white gene are cloned and sequenced.

19. (Withdrawn) The method according to claim 16, wherein the drug resistance gene is neomycin-phosphotranspherase gene and its promoter is a heatshock promoter, and in the step (b) the transformant resistant to G418 is selected.